



Approve Northern California Megaregion Zero Emission Medium and Heavy Duty Vehicle Study

Consent

**Prepared by:** Sam Shelton

**Attachments:** Yes

**Approved by:** James Corless

**Referring Committee:** Transportation

**1. Issue:**

Staff is seeking authorization to release a Request for Proposals (RFP) for hiring a consultant/team to identify actions and milestones to implement the electric charging and hydrogen refueling infrastructure needed to support the deployment of Medium-Duty/Heavy-Duty (MD/HD) zero-emission vehicles (ZEVs) within the Northern California Megaregion.

**2. Recommendation:**

The Transportation Committee recommends that the board: (1) authorize the release of an RFP for consulting support for Northern California Megaregion Zero Emission Medium and Heavy Duty Vehicle Study; and (2) authorize the executive director to negotiate and execute a contract with the selected consultant/team.

**3. Background/Analysis:**

*Converting trucks to ZEVs can have a big impact on emissions*

Medium-duty and heavy-duty (MD/HD) vehicles represent a small share of California registered vehicle stock, accounting for about 1 million out of 31 million vehicles, or three percent; however, this small number of vehicles is responsible for about 23 percent of the state's on-road GHG emissions because of the high number of miles traveled per year and comparatively low fuel efficiency. Additionally, MD/HD vehicles account for nearly 60 percent of nitrogen oxides (NOx) and 52 percent of fine particles (PM2.5) emissions from on-road transportation in California. This small number of high-impact vehicles represent a significant opportunity to reduce GHG emissions and criteria emissions. In 2020, the governor issued Executive Order N-79-20, which recognized that "zero emissions technologies, especially trucks and equipment, reduce both greenhouse gas emissions and toxic air pollutants that disproportionately burden our disadvantaged communities of color," and further stipulated that all operations of medium- and heavy-duty vehicles shall be 100 percent zero emission by 2045 (by 2035 for drayage trucks) where feasible.

*Megaregional coordination can help overcome the ZEV "chicken-and-egg" dilemma*

Despite increasing availability of electric MD/HD vehicles - including delivery vans, shuttles, and school buses - customers remain hesitant to convert their fleets despite growing regulatory pressures. A 2020 Sacramento Municipal Utility District (SMUD) customer journey study found that most fleet customers are deterred by the lack of charging and hydrogen fueling infrastructure. Meanwhile, fleet managers are discouraged by the risks associated with dependency on infrastructure that may not arrive when needed or potentially at all. Interviews with large area fleet managers cited the need for a regional plan to develop an integrated

approach involving local governments, utilities, air districts, and other regional stakeholders to provide the vision, leadership, and direction to instill confidence that the necessary infrastructure will arrive. A coordinated megaregional electrification blueprint with input and buy-in from key players is essential to signal the commitment needed to overcome this ‘chicken-and-egg’ dilemma and expedite fleet conversions.

#### **4. Discussion/Analysis:**

##### *Planning for at least eleven stations along Megaregional highways*

The Northern CA Megaregion Zero Emission Medium/Heavy Duty Vehicle Study will identify actions and milestones to implement the electric charging and hydrogen refueling infrastructure needed to support the deployment of Medium-duty/heavy-duty (MD/HD) zero-emission vehicles (ZEVs). Building upon the three-state 2020 West Coast Clean Transit Corridor Initiative’s recommendations, SACOG will work closely with partners including SJCOG, MTC, Caltrans districts, and utilities such as Sacramento Municipal Utility District (SMUD) and PG&E to plan for a minimum of 11 major zero-emission truck charging plazas to support the Northern CA Megaregion along I-5, I-80, SR99 as well as US50, and the I-580/205 corridors (see attachment A for a map of the study area).

The scope of work includes: (1) prioritized locations and grid improvements, and (2) structured partnerships and identified lead organizations on ZEV MD/HD area improvements. In addition to charging infrastructure, this plan could also identify the multimodal route and access improvements that would need equitable community engagement (see attachment B for a detailed scope of work). While the partnership planning process will bring stakeholders together to assess the viability of locations, the scope of work includes the following suggested criteria to guide stakeholders through a prioritization process:

- Demand: Anticipated base-load fleet use, forecasted freight movement, truck parking deficiencies,
- Constraints and costs: electrical grid constraints, availability of right-of-way or property ownership, fleet access from distribution centers and highway corridors, future truck volumes in DACs or AB 617 communities, multimodal planning conflicts with station access
- Targeted Benefits and planning synergies: multimodal route access improvements and pavement rehabilitation, fleet conversion in DACs and/or AB 617 communities to improve health, air quality and reduce GHGs, relation to MPO planning for other EV charging mobility/transit hub needs and mix of land uses.

#### **5. Fiscal Impact/Grant Information:**

Funding for this effort is included in SACOG’s Overall Work Program. The consultant will be funded using part of the \$500,000 Caltrans Sustainable Communities Planning grant award. The total project budget including cash and in-kind match is \$625,000.

#### **6. This staff report aligns with the following SACOG Work Plan Objectives:**

##### **Goal 1 : Advance Economic Prosperity**

**Objective 5:** Begin sustained effort to address the racial inequities related to economic prosperity indicators associated with housing, transportation, and opportunity.

##### **Goal 2 : Connected Communities**

**Objective 3:** Prioritize cost-effective transportation investments that enhance mobility while improving safety, air quality, and the condition of transportation infrastructure and assets.